1. LISTING OF CLAIMS

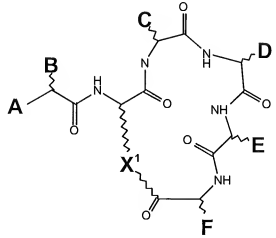
This listing of claims replaces all prior versions and listings of claims in the present application:

1. (Previously Presented) A method of treatment of osteoarthritis, comprising the step of administering an effective amount of an inhibitor of a C5a G protein-coupled receptor to a subject in need of such treatment, in which the inhibitor is a compound which

(a) is an antagonist of a C5a G protein-coupled receptor,

(b) has substantially no agonist activity, and

(c) is a cyclic peptide or peptidomimetic compound of formula I:



(I)

where **A** is H, alkyl, aryl, NH_2, NH-alkyl, $N(alkyl)_2$, NH-aryl, NH-acyl, NH-benzoyl, $NHSO_3$, $NHSO_2$-alkyl, $NHSO_2$-aryl, OH, O-alkyl, or O-aryl;

B is an alkyl, aryl, phenyl, benzyl, naphthyl or indole group, or **B** is the side chain of L-phenylalanine or L-phenylglycine;

C is the side chain of glycine, alanine, leucine, valine, proline, hydroxyproline, or thioproline;

D is the side chain of D-leucine, D-homoleucine, D-cyclohexylalanine, D-homocyclohexylalanine, D-valine, D-norleucine, D-homo-norleucine, D-phenylalanine, D-tetrahydroisoquinoline, D-glutamine, D-glutamate, or D-tyrosine;

E is the side chain of an amino acid selected from the group consisting of L-phenylalanine, L-tryptophan and L-homotryptophan, or is L-1-napthyl or L-3-benzothienyl alanine;

F is the side chain of L-arginine, L-homoarginine, L-citrulline, or L-canavanine, or a bioisostere thereof; and

$\mathbf{X^1}$ is $-(CH_2)_nNH-$ or $(CH_2)_nS-$, where *n* is an integer of from 1 to 4; $-(CH_2)_2O-$; $-(CH_2)_3O-$; $-(CH_2)_3-$; $-(CH_2)_4-$; $-CH_2COCHRNH-$; or $-CH_2CHCOCHRNH-$, where R is the side chain of any common or uncommon amino acid.

2. (Previously Presented) The method of claim 1, in which *n* is 2 or 3.

3. (Previously Presented) The method of claim 1, in which **A** is an acetamide group, an aminomethyl group, or a substituted or unsubstituted sulphonamide group.

4. (Previously Presented) The method of claim 2, in which **A** is a substituted sulphonamide, and the substituent is an alkyl chain of 1 to 6 carbon atoms, or a phenyl or toluyl group.

5. (Previously Presented) The method of claim 3, in which the substituent is an alkyl chain of 1 to 4 carbon atoms.

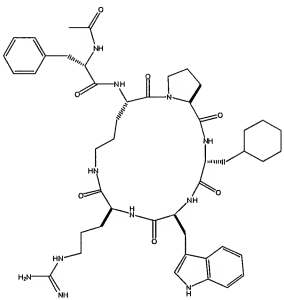
6-9. (Canceled)

10. (Previously Presented) The method of claim 1, in which the inhibitor is a compound which has antagonist activity against C5aR, and has no C5a agonist activity.

11. (Previously Presented) The method of claim 1, in which the inhibitor has potent antagonist activity at sub-micromolar concentrations.

12. (Previously Presented) The method of claim 1, in which the compound has a receptor affinity $IC_{50} < 25$ μM, and an antagonist potency $IC_{50} < 1$ μM.

13. (Previously Presented) The method of claim 1, in which the compound is selected from the group consisting of: compounds **1** to **6**, **10** to **15**, **17**, **19**, **20**, **22**, **25**, **26**, **28**, **30**, **31**, **33** to **37**, **39** to **45**, **56** to **58** and **60** to **64**, wherein said compounds have chemical structures as follows:



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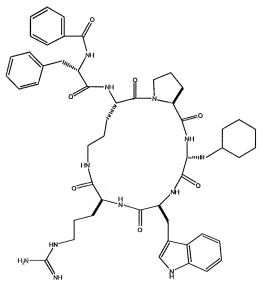

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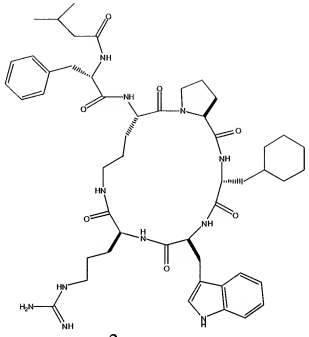

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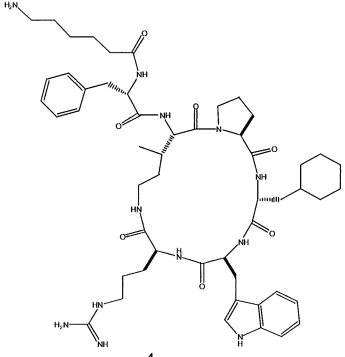

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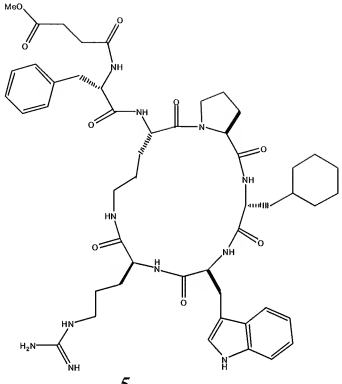

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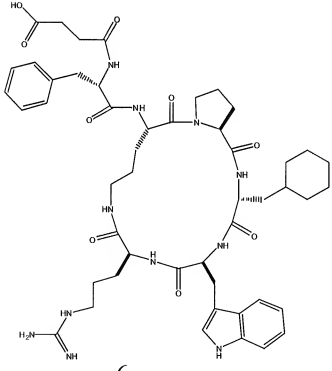

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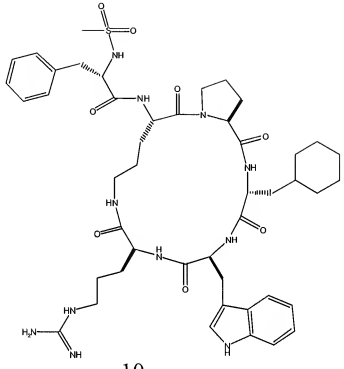

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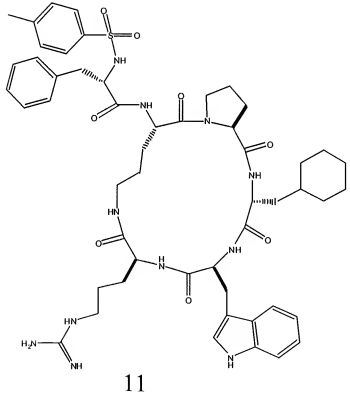

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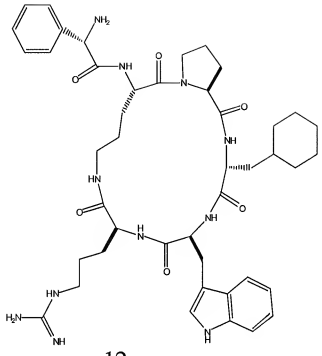

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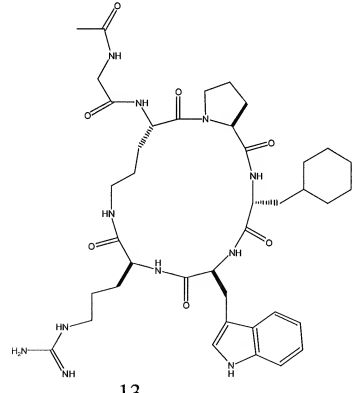

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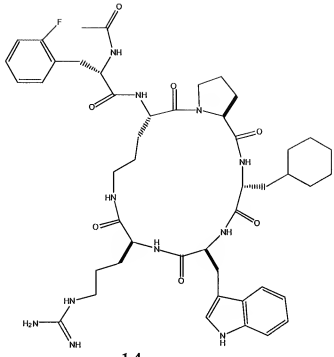

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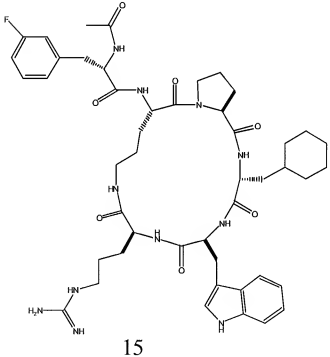

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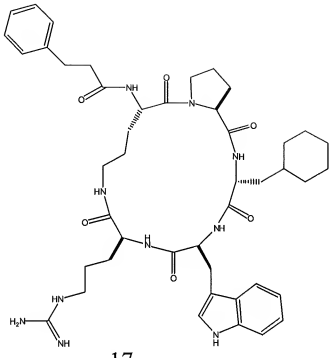

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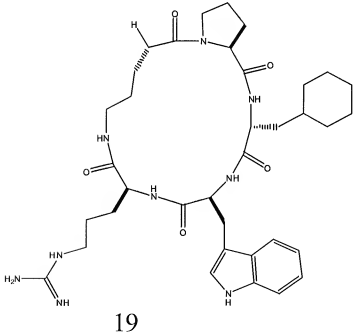

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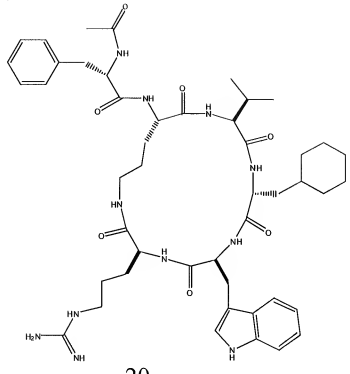

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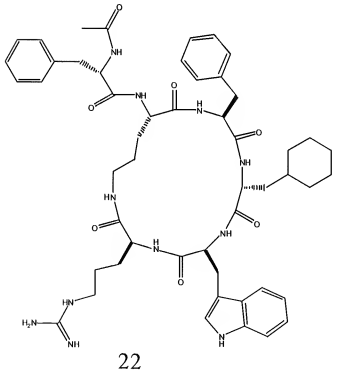

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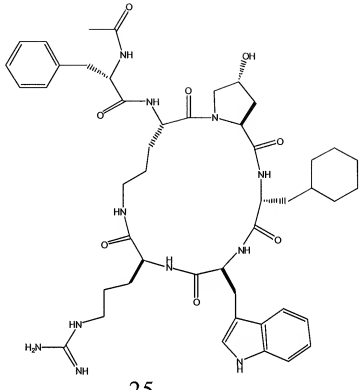

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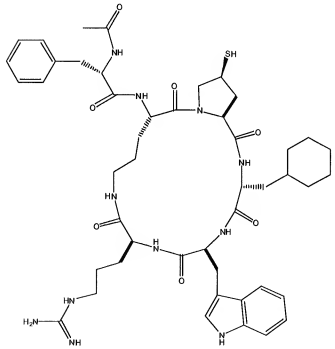

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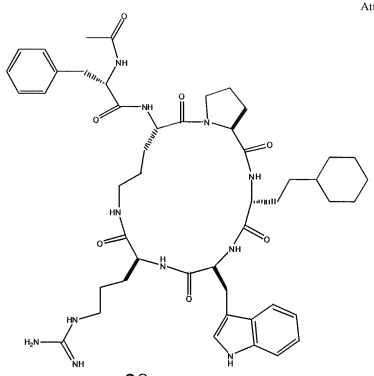

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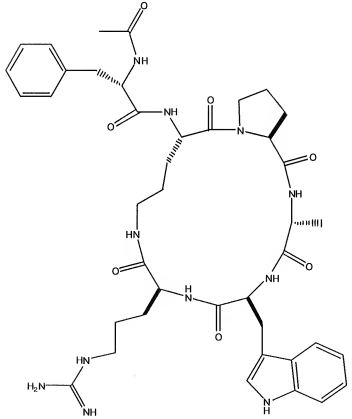

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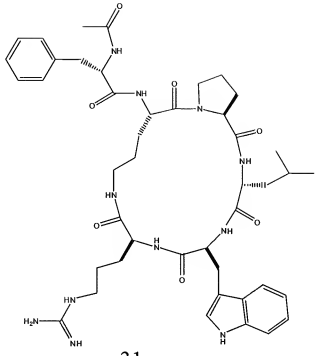

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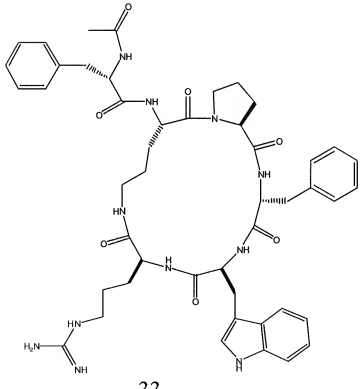

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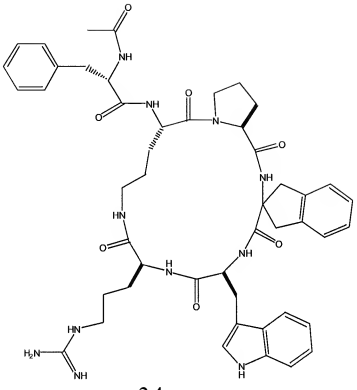

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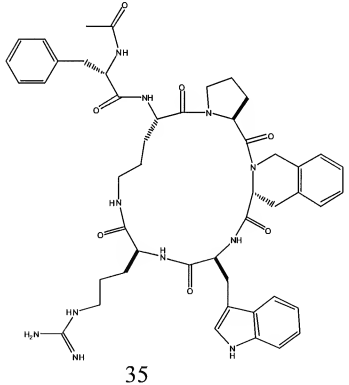

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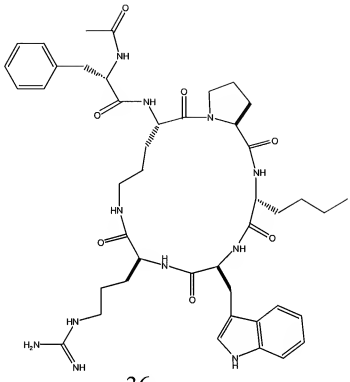

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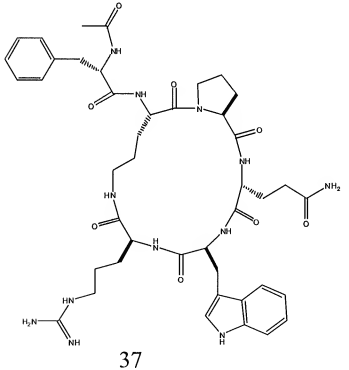

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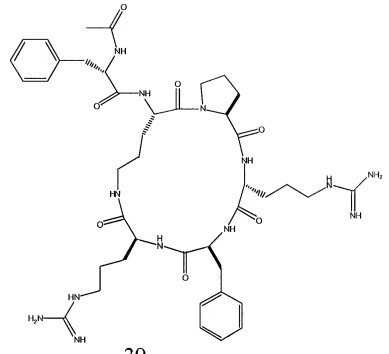

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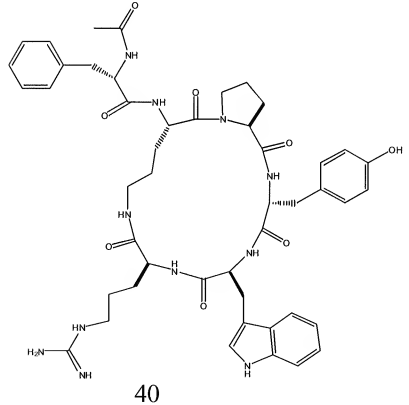

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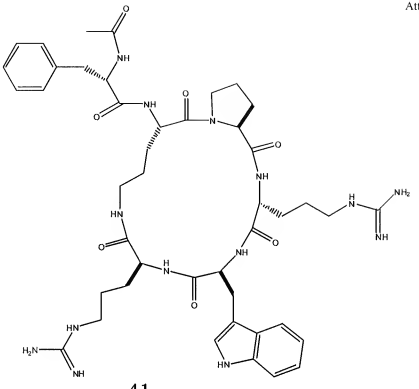

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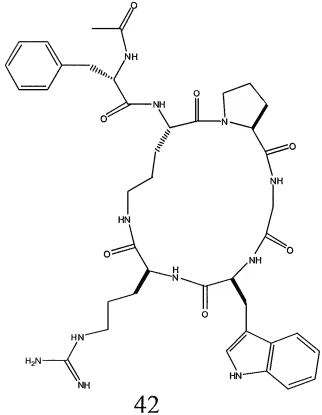

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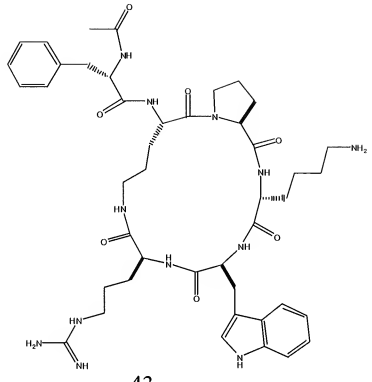

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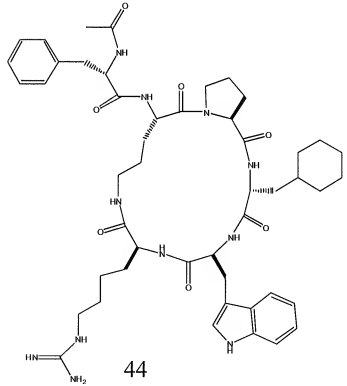

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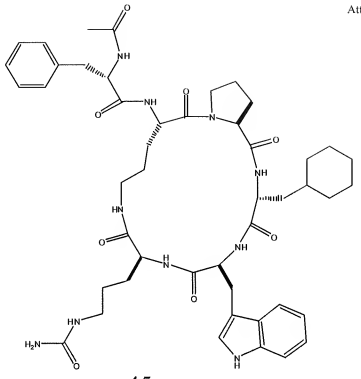

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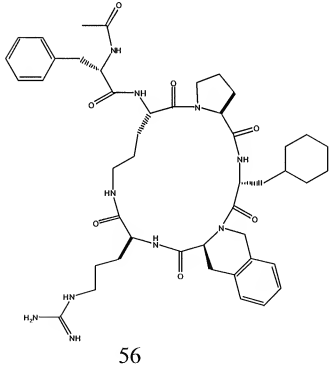

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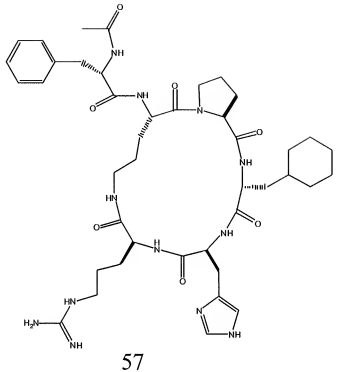

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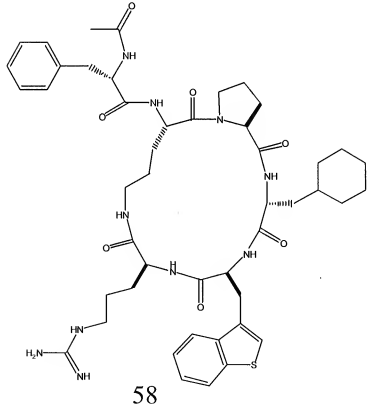

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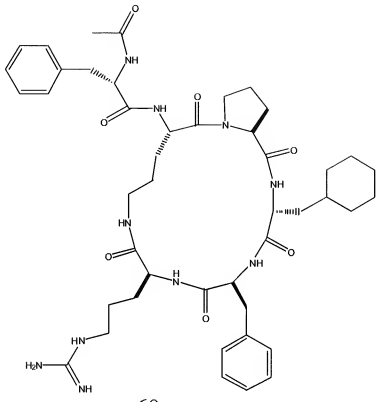

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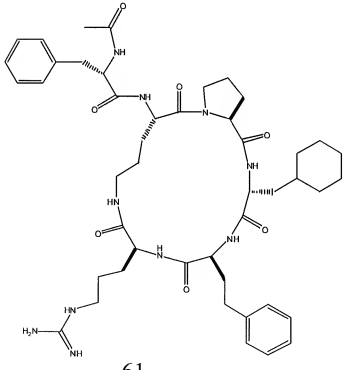

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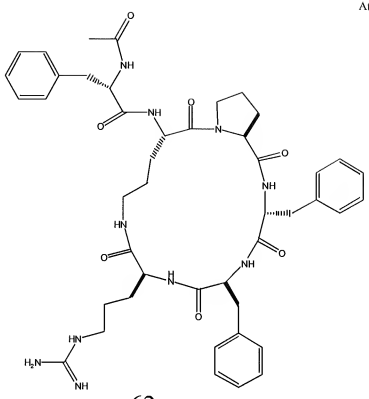

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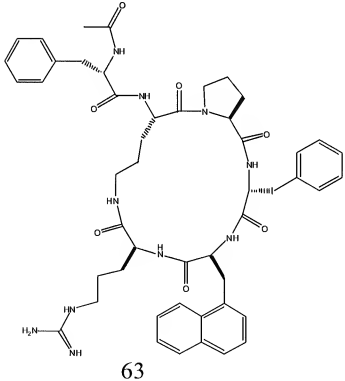

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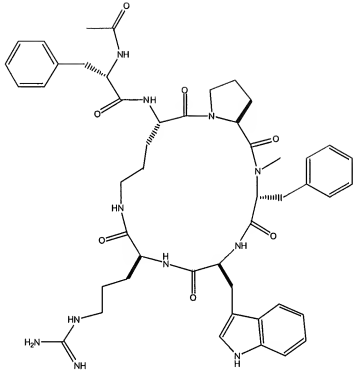

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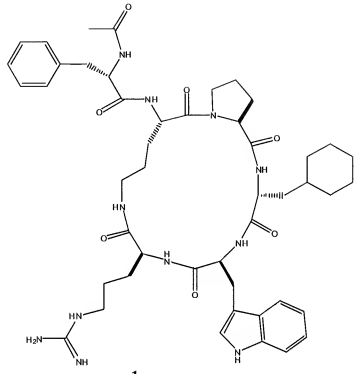
14. (Previously Presented) The method of claim 13, in which the compound is compound **1** (AcF-[OP-DCha-WR]), compound **33** (AcF-[OP-DPhe-WR]), compound **60** (AcF-[OP-DCha-FR]) or compound **45** (AcF-[OP-DCha-WCit]), wherein said compounds have chemical structures as follows:



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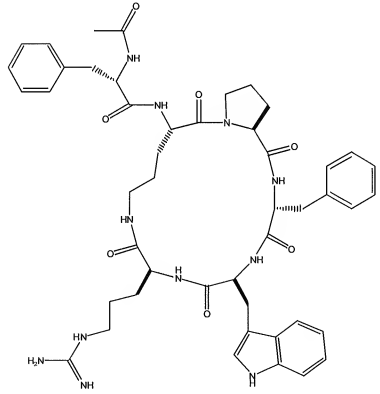

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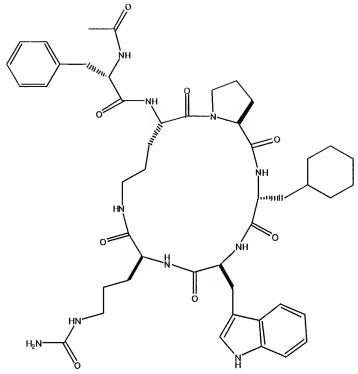

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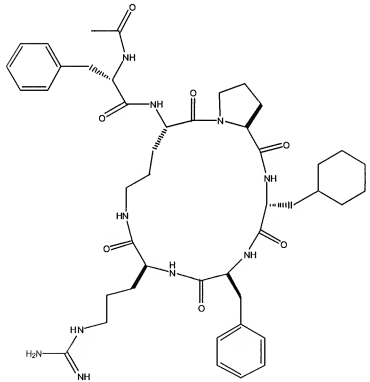

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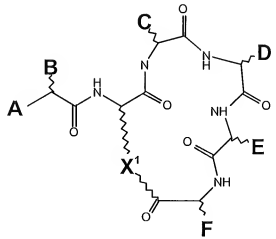
15. (Previously Presented) The method of claim 1, in which the inhibitor is used in conjunction with one or more other agents for the treatment of osteoarthritis.

16. (Previously Presented) The method of claim 1, wherein **A** is NH-acyl; **B** is the side chain of L-phenylalanine; **C** is the side chain of L-proline; **D** is the side chain of D-cyclohexylalanine; **E** is the side chain of L-tryptophan; **F** is the side chain of L-arginine; and $\mathbf{X^1}$ is $-(CH_2)_n NH-$, where n is 3.

17. (Previously Presented) A method for treating osteoarthritis in a mammal, said method comprising the step of: administering to a mammal in need thereof, an effective amount of a composition comprising a C5a G protein-coupled receptor antagonist compound that (a) has substantially no agonist activity and (b) is a cyclic peptide or peptidomimetic compound of formula I:



(I)

wherein:

A is H, alkyl, aryl, NH_2, NH-alkyl, $N(alkyl)_2$, NH-aryl, NH-acyl, NH-benzoyl, $NHSO_3$, $NHSO_2$-alkyl, $NHSO_2$-aryl, OH, O-alkyl, or O-aryl;

B is an alkyl, aryl, phenyl, benzyl, naphthyl or indole group, or **B** is the side chain of L-phenylalanine or L-phenylglycine;

C is the side chain of glycine, alanine, leucine, valine, proline, hydroxyproline, or thioproline;

D is the side chain of D-leucine, D-homoleucine, D-cyclohexylalanine, D-homocyclohexylalanine, D-valine, D-norleucine, D-homo-norleucine, D-phenylalanine, D-tetrahydroisoquinoline, D-glutamine, D-glutamate, or D-tyrosine;

E is the side chain of an amino acid selected from the group consisting of L-phenylalanine, L-tryptophan and L-homotryptophan, or is L-1-napthyl or L-3-benzothienyl alanine;

F is the side chain of L-arginine, L-homoarginine, L-citrulline, or L-canavanine, or a bioisostere thereof; and

$\mathbf{X^1}$ is $-(CH_2)_nNH-$ or $(CH_2)_nS-$, where n is an integer of from 1 to 4; $-(CH_2)_2O-$; $-(CH_2)_3O-$; $-(CH_2)_3-$; $-(CH_2)_4-$; $-CH_2COCHRNH-$; or $-CH_2-CHCOCHRNH-$, where R is the side chain of any common or uncommon amino acid.

18. (Previously Presented) The method of claim 17, wherein

A is H, alkyl, aryl, NH_2, NH-alkyl, $N(alkyl)_2$, NH-aryl, NH-acyl, NH-benzoyl, $NHSO_3$, $NHSO_2$-alkyl, $NHSO_2$-aryl, OH, O-alkyl, or O-aryl;

B is an alkyl, aryl, phenyl, benzyl, naphthyl or indole group, or **B** is the side chain of L-phenylalanine or L-phenylglycine;

C is the side chain of glycine, alanine, leucine, valine, proline, hydroxyproline, or thioproline;

D is the side chain of D-leucine, D-homoleucine, D-cyclohexylalanine, D-homocyclohexylalanine, D-valine, D-norleucine, D-homo-norleucine, D-phenylalanine, D-tetrahydroisoquinoline, D-glutamine, D-glutamate, or D-tyrosine;

E is the side chain of an amino acid selected from the group consisting of L-phenylalanine, L-tryptophan and L-homotryptophan, or is L-1-napthyl or L-3-benzothienyl alanine;

F is the side chain of L-arginine, L-homoarginine, L-citrulline, or L-canavanine; and

$\mathbf{X^1}$ is $-(CH_2)_nNH-$ or $(CH_2)_nS-$, where n is an integer from 1 to 4.

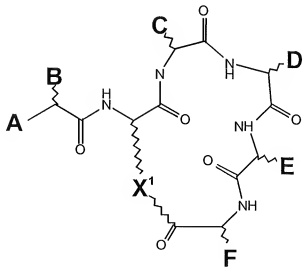
19. (Previously Presented) The method of claim 18, wherein **A** is NH-acyl; **B** is the side chain of L-phenylalanine; **C** is the side chain of L-proline; **D** is the side chain of D-cyclohexylalanine; **E** is the side chain of L-tryptophan; **F** is the side chain of L-arginine; and $\mathbf{X^1}$ is $-(CH_2)_nNH-$, where n is 3.

20. (Previously Presented) A method of treatment of osteoarthritis, said method comprising the step of administering to a subject in need thereof, an effective amount of a pharmaceutically-acceptable composition that comprises a C5a G protein-coupled receptor inhibitor, wherein said inhibitor:

(a) is an antagonist of a C5a G protein-coupled receptor;

(b) has substantially no agonist activity; and

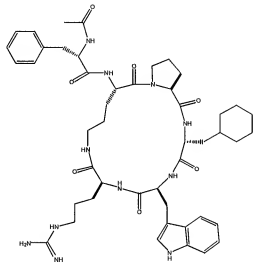
(c) is a cyclic peptide or peptidomimetic compound of formula I:



(I)

wherein **A** is NH-acyl; **B** is the side chain of L-phenylalanine; **C** is the side chain of L-proline; **D** is the side chain of D-cyclohexylalanine; **E** is the side chain of L-tryptophan; **F** is the side chain of L-arginine; and $\mathbf{X^1}$ is $-(CH_2)_n NH-$, where *n* is 3.

21. (Previously Presented) A method of treating osteoarthritis in a subject, said method comprising the step of administering to said subject an effective amount of a cyclic peptide or peptidomimetic compound selected from the group consisting of:



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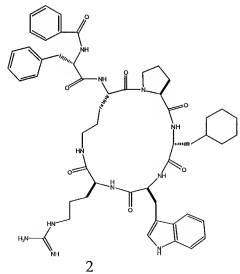

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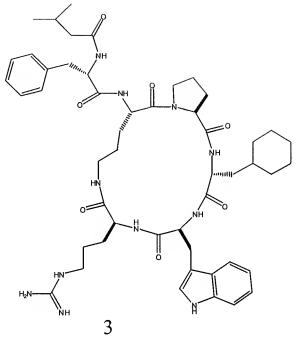

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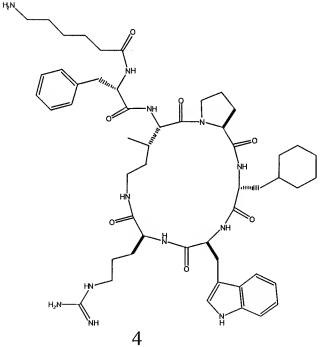

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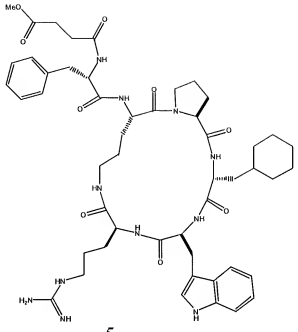
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H
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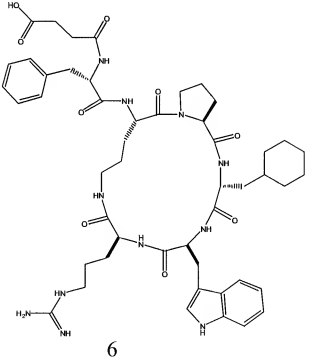
HN
H2N
NH
NH

5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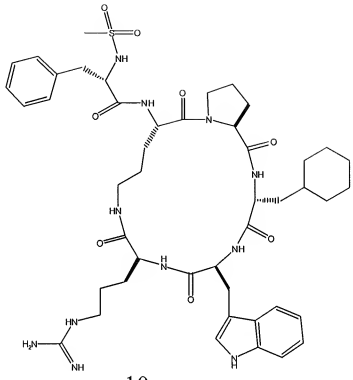

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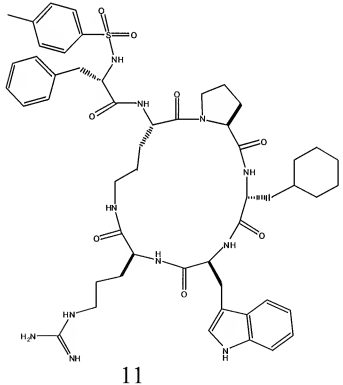

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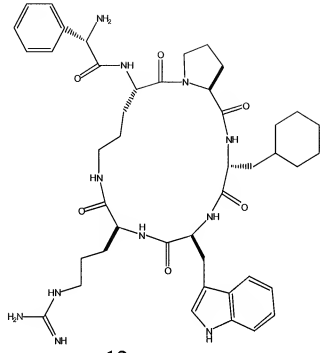

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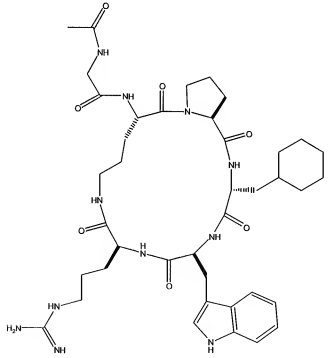

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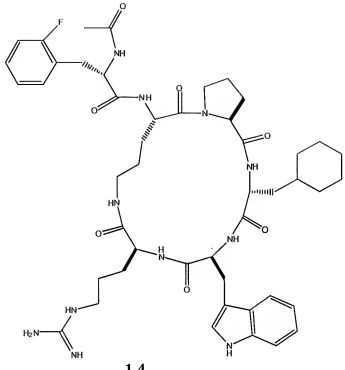

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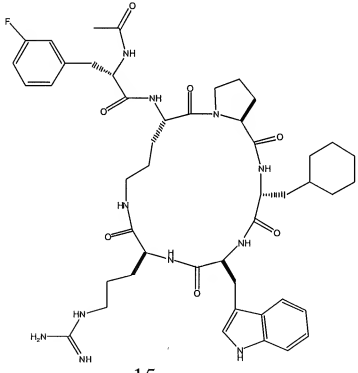

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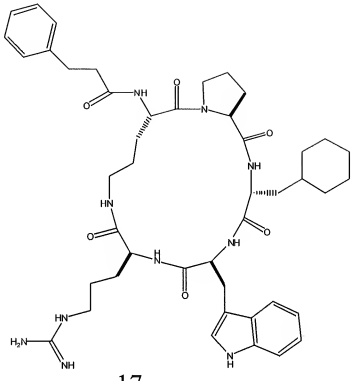

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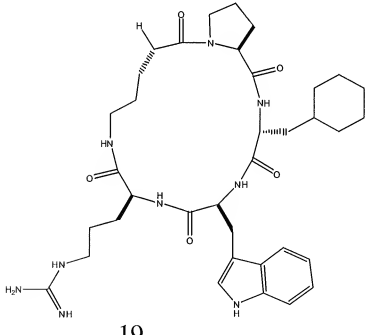

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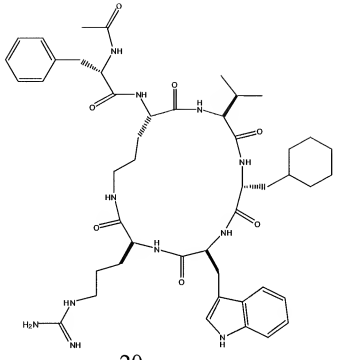

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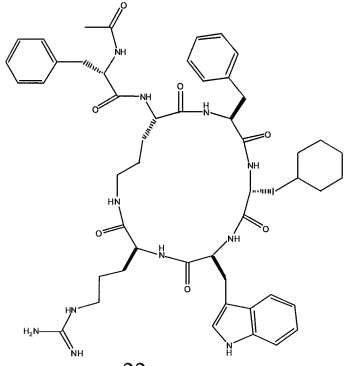

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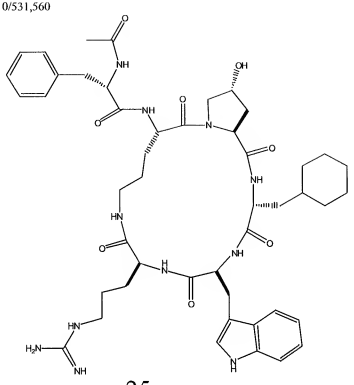

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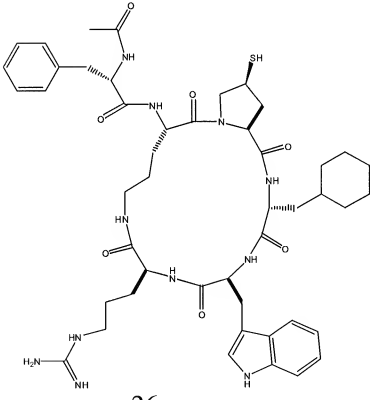

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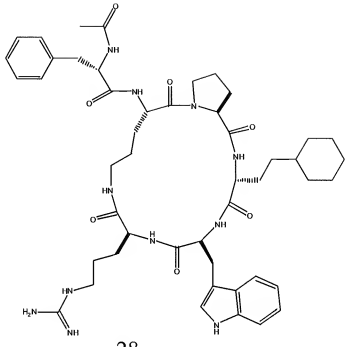

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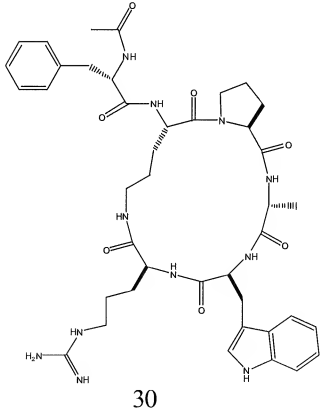

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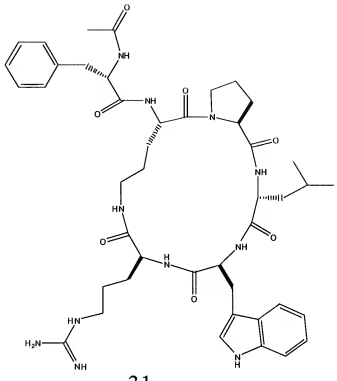

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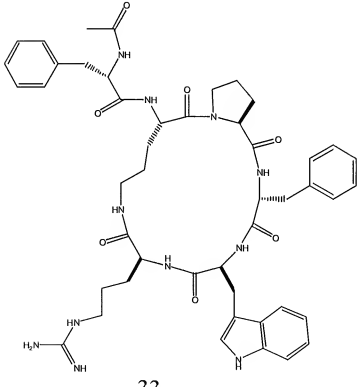

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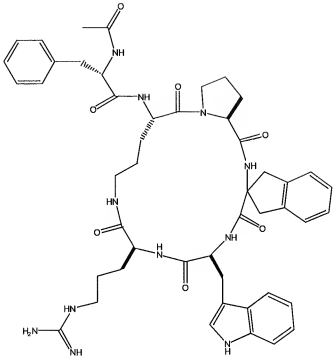

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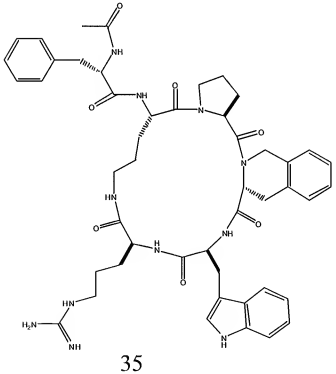

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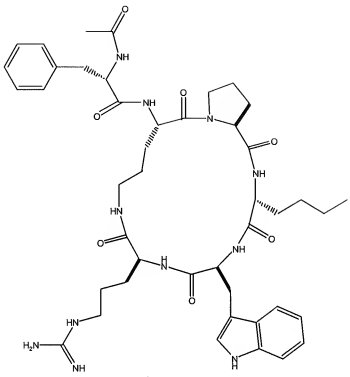

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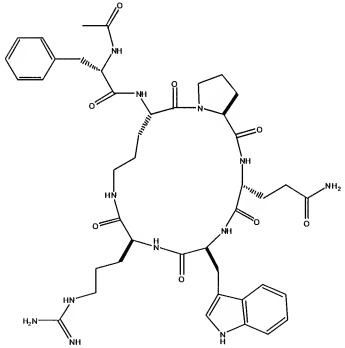

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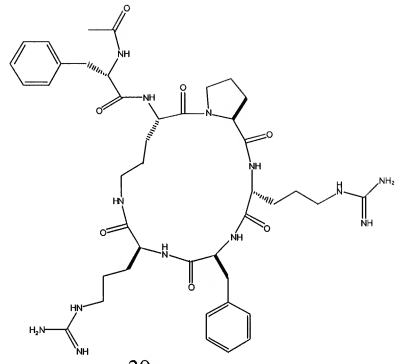

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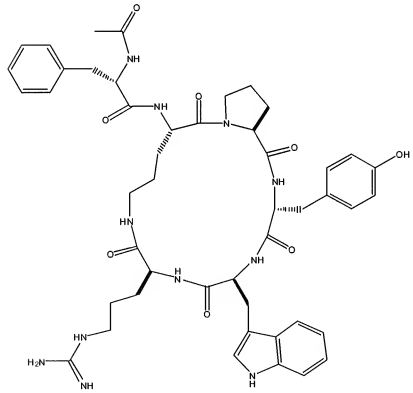

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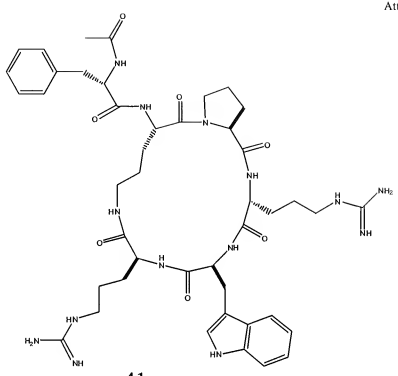

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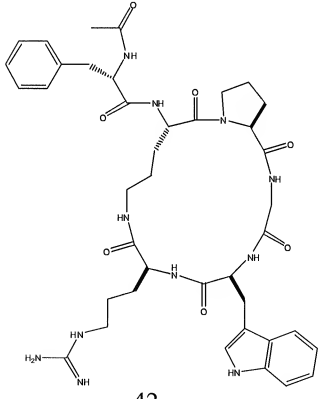

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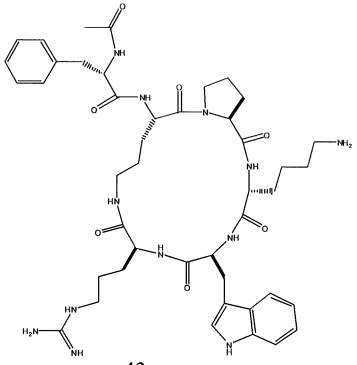

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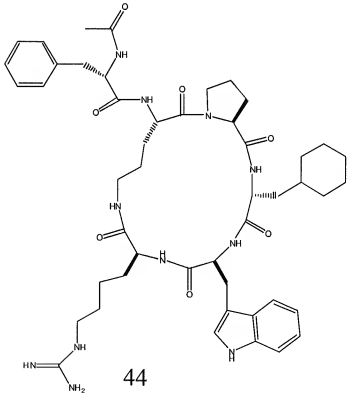

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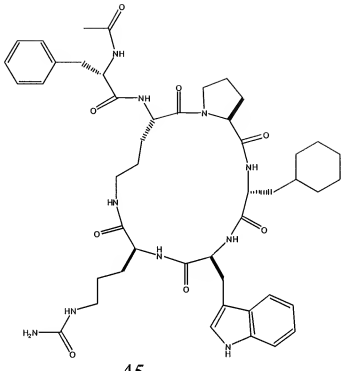

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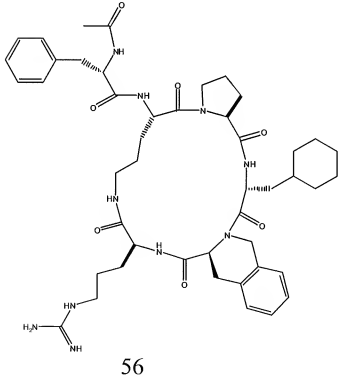

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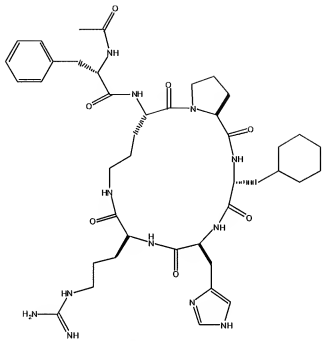

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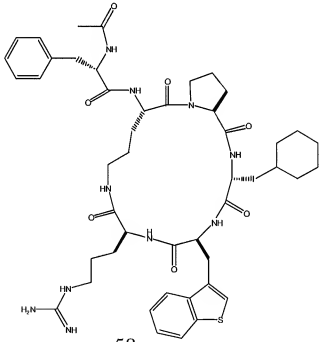

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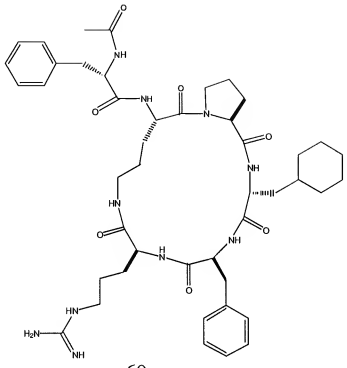

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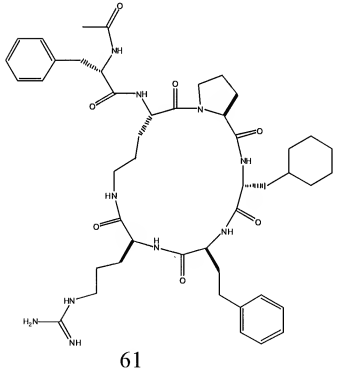

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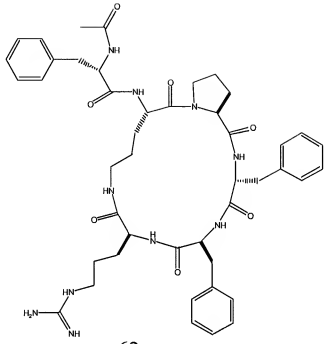

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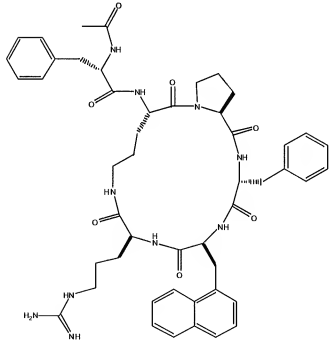

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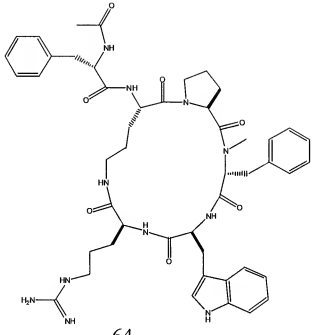
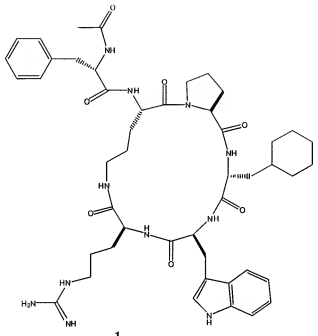
and



64

wherein said compound is a C5a G protein-coupled receptor antagonist that has substantially no agonist activity.

22. (Previously Presented) The method of claim 21, wherein said compound is selected from the group consisting of:



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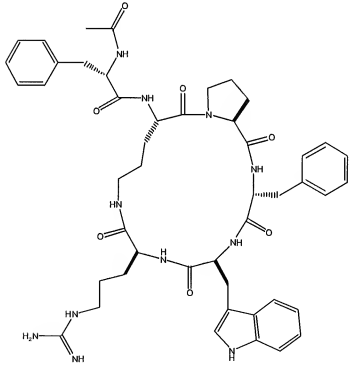

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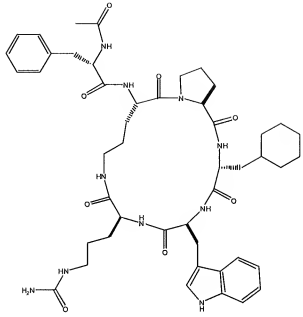

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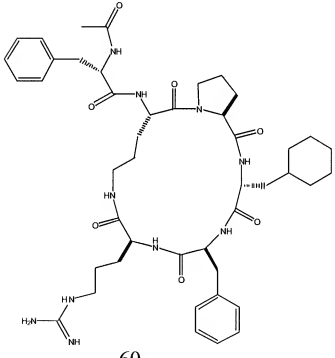

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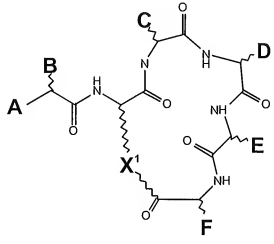
23. (Previously Presented) A method for treating osteoarthritis in a mammal, said method comprising the step of: administering to a mammal in need thereof, an effective amount of a composition comprising a C5a G protein-coupled receptor antagonist compound that (a) has substantially no agonist activity and (b) is a cyclic peptide or peptidomimetic compound of formula I:



(I)

wherein **A** is NH-acyl; **B** is the side chain of L-phenylalanine; **C** is the side chain of L-proline; **D** is the side chain of D-cyclohexylalanine; **E** is the side chain of L-tryptophan; **F** is the side chain of L-arginine; and $\mathbf{X^1}$ is $-(CH_2)_n NH-$, where n is 3.